#### A-3.0 PLAN IMPROVEMENT AND WATERSHED PLANNING

The plan improvement and watershed planning component of this plan is composed of the following elements:

- 1. **Section A-3.1**, Introduction
- 2. Section A-3.2, Regulatory Requirements
- 3. Section A-3.3, Plan Development
- 4. **Section A-3.4**, Funding of Structural Controls
- 5. **Section A-3.5**, Employee Training and Outreach

#### A-3.1 INTRODUCTION

This Section describes the approach taken by the City in developing and updating the Local Implementation Plan (LIP) to maintain a responsive compliance program. Program updates are informed by an iterative feedback process to address high priority water quality problems by revising, adding or deleting BMPs and activities in response to performance assessment and research. This feedback loop forms the framework for revision and improvement of the program documents.

#### A-3.2 REGULATORY REQUIREMENTS

The requirement for iterative consideration and implementation of new or modified BMPs is established in several places in Order No. R9-2009-0002, including:

- Directive A.3.a, addressing the need for additional BMPs to prevent or reduce pollutants causing or contributing to the exceedance of water quality objectives in receiving waters;
- Directive C.2, which requires an action report/plan to eliminate exceedances of Nonstormwater Action Levels in MS4 discharges;
- Directive D.1, which requires affirmative augmentation of stormwater controls and measures to reduce discharges from the MS4 that exceed Stormwater Action Levels;
- Direction F.1.d.10, which requires updating of treatment control BMP options allowed in the local Standard Stormwater Mitigation Plans (called Water Quality Management Plans [WQMPs] in Orange County) for priority development projects;
- Directive G.2.d, addressing a watershed BMP implementation strategy that includes removing and replacing BMPs not contributing to measured pollutant reductions or improvements;
- Directive G.7.b.2, which requires assessment of BMPs being evaluated for implementation within the high-priority drainage identified under the Revised Aliso Creek 13225 Directive Program; and
- Directive J, which requires assessment-driven modifications to jurisdictional activities or BMPs that are ineffective in achieving progress toward the key Directive J objectives listed above in Section 3.3.

The requirement for iterative consideration and implementation of new or modified BMPs is principally established in Section IV. of Order No. R8-2009-0030.

#### A-3.3 PLAN DEVELOPMENT

#### A-3.3.1 Approach to Plan Development and Improvement

The Principal Permittee, in conjunction with the City and the other Co-Permittees, have developed a comprehensive framework for storm water management, described in the Drainage Area Management Plan (DAMP), which is updated as appropriate in conjunction with the Report of Waste Discharge and each new Municipal Permit's findings and requirements. The DAMP sets forth a model programmatic County-wide approach for urban stormwater management on two basic levels:

- Establishing a baseline set of source control BMPs and activities that are considered proven and cost-effective, and are recommended for inclusion or reference in the Co-Permittees' LIPs at the *local jurisdictional MS4 level*. The LIP primarily addresses non-structural and pollution prevention controls applicable to on-site or in the MS4, as well as localized structural BMPs, as required by Order No. R9-2009-0002 and Order No. R8-2009-0030 and as further determined appropriate by the City.
- Establishing a framework collective action at the *multi-jurisdictional watershed level*, focusing on solving water quality and beneficial use problems in receiving waters, and documenting issues and progress through the Watershed Work Plans (WWP) and Watershed Master Plans (WMPs) compiled by the Principal/Lead Permittee with input by the Co-Permittees. These plans primarily address watershed-wide source control initiatives, interjurisdictionally-coordinated structural BMPs, and receiving-water restoration efforts as specifically required by Directive G of Order No. R9-2009-0002 and as further determined appropriate by the Co-Permittees.

#### A-3.3.2 Methodology for Examining Retrofit Opportunities

[Reserved]

#### A-3.3.3 BMP Selection and Effectiveness Assessment

The 2006 Report of Waste Discharge, the region-wide Annual Unified Reports, the Watershed Urban Runoff Management Plans (WURMPs), the City's Annual PEA Reports, and the City's Aliso Directive Quarterly and Annual Reports provide a history of program and BMP activities implemented and progress in meeting water quality standards. The City's current baseline BMPs to reduce, eliminate or mitigate pollutant impacts are summarized in **Sections A-5.0** through **A-10.0**. Inter-jurisdictional watershed BMP efforts are summarized in **Section A-12.0** and presented in the Watershed Work Plans for the Aliso Creek Watershed. For the impaired 303(d)-listed watersheds in the City where TMDLs have been approved, constituent-specific Load Reduction Plans are being developed and progress reports will be submitted, to integrate the jurisdictional and watershed work plan efforts within a specific schedule to meet specific effectiveness requirements.

New or modified BMPs may be considered on a localized basis or for broader scale implementation. In order to assure that resources for pollution prevention and removal BMPs are strategically expended, the City typically evaluates any potential new structural or preventative BMP technologies or practices on a limited scale, or consults evaluations conducted by others, before considering broader-scale implementation. Implementation is pursued in a prioritized manner on a schedule consistent with available resources. After pilot and/or broader implementation, local effectiveness is assessed to determine if further adjustments or modifications are needed to the BMP implementation or program priorities. These iterative efforts are discussed and reported in the Annual Jurisdictional Work Plan progress updates submitted with the annual PEA Report.

BMP effectiveness assessment may be characterized via direct or indirect evidence at one or more of the six CASQA outcome levels described in **Section A-3.3.3**. The BMP selection and effectiveness assessment process may include, but is not limited to, input from the following factors and information sources, as available and applicable:

- A review of technical literature (such as the ASCE/EPA databases)
- A review of existing control programs
- Demonstration or research projects by City or other entities
- Input from vendors, consulting firms, other municipalities, or other agencies
- Water quality and flow data and modeling,
- User and operational/maintenance staff feedback
- Opinion surveys
- Beneficial Use assessment
- Cost and cost/benefit
- Technical feasibility
- Acceptability by the community
- Ease or difficulty of implementation
- Maintenance requirements
- Pollutant prevention/removal performance
- Multiple resource benefits or impacts

#### SCHEDULES AND EFFECTIVENESS MILESTONES

In December 2008, the Regional Board adopted Total Maximum Daily Loads to address elevated fecal indicator bacteria (FIB) levels in the Aliso Creek watershed, requiring the following percent systemic load reductions from the 2001 baseline to achieve TMDL compliance:

Table 3.2: Required Reductions for Bacteria TMDL Compliance in Aliso Watershed

	Fecal Coliform	Enterococcus
Wet Weather	26.6%	27.5%
Dry Weather	95.6%	99.1%

Numeric targets were also set at the concentration-based bacteria numeric water quality objectives from the Basin Plan, and providing for an allowable exceedance frequency based on reference natural conditions or exclusion of natural sources. Similar TMDLs were also adopted for lower San Juan Creek and at Salt Creek Beach.

The Aliso Creek TMDL sets a schedule requiring 100% compliance for both wet and dry weather within 10 years after the approval of the TMDL by the State Office of Administrative Law, which is anticipated for mid-2011. A 7-year milestone after OAL approval is also set for 50% compliance with the dry weather TMDL. A current focus of the jurisdictional and watershed work plans is the cooperative development of the Bacteria Load Reduction Plan (BLRP) for the Aliso watershed, which will be submitted to the Regional Board by the watershed Co-permittees within 18 months of OAL approval. The BLRP will detail the schedule for special studies, source control and treatment control BMPs implemented since 2001; special studies and BMPs to be implemented during the future course of the TMDL effort; the ongoing and expected effectiveness and benefits of the BMPs; and a monitoring/reporting plan to confirm metrics used to verify compliance progress and inform iterative modification of the plan if necessary. The Load Reduction Plan may be developed or subsequently revised to comprehensively address the other priority pollutants of concern, and may propose up to an additional 10 years in the schedule to achieve wet-weather compliance.

**DAMP Section 3.0** describes a program evaluation framework that is based on the California Stormwater Quality Association (CASQA) method, which defines a hierarchy of potential outcomes at six levels:

- Level 1 Compliance with Activity-Based Permit Requirements
- Level 2 Changes in Attitudes, Knowledge & Awareness
- Level 3 Behavioral Change & BMP Implementation
- Level 4 Load Reductions
- Level 5 Changes in Urban Runoff & Discharge Quality
- Level 6 Changes in Receiving Water Quality

Directive J of Order No. R9-2009-0002 and Monitoring and Reporting directives of Order No. R8-2009-0030 require the City's LIP to consider the CASQA hierarchy to establish quantitative and/or qualitative assessment measures or methods targeting water quality results, municipal activities, and other program components; commit to conducting the measures and evaluating both the outcomes and the assessment strategies; and commit to identify and implement program modifications and improvements needed to maximize LIP effectiveness at meeting the following objectives:

- Reduce stormwater pollutant loadings to 303(d) waterbodies;
- Prevent stormwater MS4 discharges from causing or contributing to conditions of pollution, nuisance or contamination;
- Comply with the requirement to take iterative actions to protect receiving water limitations; and
- Comply with Permit requirements for each major program component.

Attached **Exhibit A-3.I** identifies the program assessment measures developed by the Co-Permittees for the Fourth Term Permit, which are expected to be conducted annually by the City for each of the objectives. The assessments may be adapted or modified over the Permit term to improve their usefulness. Assessment findings are reported annually with the annual PEA Report. Any modifications to the program or to programmatic assessment methods are also reported annually, with corresponding revisions made to the LIP as appropriate.

#### High Priority Water Quality Problems and Sources

High priority water quality problems in the City, including TMDL constituents, 303(d) listed impairments, and persistent NAL/SAL exceedances for the 2 watersheds shared by the City, are summarized in Section 1 of the LIP. Known and suspected sources of the priority pollutants are summarized below in Table 3.1. In accordance with the Fourth Term Permit's requirement that landscape irrigation runoff be re-categorized as a non-exempt discharge, landscape irrigation runoff is also defined as a high priority water quality problem in the City.

Table A-3.1 Priority Pollutants and Sources

Pollutants & Priority	Anthropogenic Sources	Natural Sources
Indicator bacteria (high priority/RWQCB-approved TMDL)	Pet feces, sewer spills, food wastes, manure, decomposing landscape litter	Wildlife feces, biofilms, decomposing organic material, sediments
Nitrogen (Medium priority/303(d) impairment)	Fertilizers, cleaning products, recycled water	Decomposing organic material, sediments, wildlife feces, groundwater chemistry
Phosphorus (Medium priority/303(d) impairment)	Fertilizers, cleaning products, recycled water	Decomposing organic material, sediments, wildlife feces, groundwater chemistry
Toxicity (Medium priority/ 303(d) impairment)	Automotive byproducts, pesticides	Groundwater chemistry
Selenium (Low priority /303(d) impairment)		Groundwater chemistry

The high priority for fecal indicator bacteria is given to high priority drain J01P08 under the Aliso Creek 13325 Directive (see Permit Directive G.7 and Section 11 of the LIP). J01P08 is a 51-inch reinforced concrete pipe outfalling to an energy dissipator and then to Aliso Creek and serving residential, HOA/CIA, and open space land uses. The City utilizes ongoing Directive monitoring to assess and guide its implementation of structural and nonstructural management practices to control and reduce discharges of fecal indicator bacteria in the J01P08 subdrainage area. BMPs that have been implemented include a landscape irrigation runoff reduction/water conservation project using evapotranspiration irrigation controller retrofits, street sweeping, enhanced outreach and education activities, inspections and enforcement at existing developments, and MS4 maintenance. Additional BMPs are considered, evaluated and implemented as found to be appropriate and effective. Activities specific to the City's efforts toward the Aliso Creek Directive are reported quarterly in conjunction with quarterly watershed co-permittee meetings, and annually on March 1 for the preceding calendar year in a report to the RWQCB.

#### Jurisdictional BMP Investigations

The City may participate with the Principal Permittee and other Permittees on studies to evaluate the effectiveness and applicability of specific BMPs. It is anticipated that these studies will result in improved knowledge and the potential modification of BMPs cited in the DAMP and incorporated into this LIP. The studies undertaken during the period of the Third Term Permits included:

- BMP Effectiveness and Applicability Evaluation for Orange County;
- Effectiveness assessment for the landscape irrigation runoff reduction/water conservation project in J01P08;
- Effectiveness assessment for the J01P01 Munger stormdrain sand filter;
- Trash and Debris BMP Evaluation;
- Erosion Control BMP Effectiveness Studies;
- Assessment of Septic Systems on Stormwater Quality;
- Portable Toilet Oversight Program;
- Dry Weather Diversion Plan; and
- NSMP BMP effectiveness studies

The City completed collaboration for a residential runoff reduction project within the J01P08 subwatershed area. This pilot BMP program study was implemented to educate homeowners and promote replacement of irrigation controllers to "smart" controllers or SmarTimers for single-family residences within the subwatershed. Results of the study indicated a 50% reduction in average runoff flow with approximately 10% participation. The data was also evaluated by another consultant and the County. This additional evaluation of the study data yielded additional statistical analysis and generated hinge plots that indicate a significant decrease in runoff and appear to confirm findings of the initial report. While the data indicates a significant decrease in flows, the consultant also noted that an evaluation of water quality data, including upstream and downstream samples, didn't support any discernable trend for bacteria indicator concentrations.

The City continues active participation in the Nitrogen Selenium Management Program (NSMP) for the Newport Bay Watershed. The City is a member and funding partner of the NSMP working group. The NSMP was formed in response to SARWQCB Order No. R8-2004-0021 which specifies waste discharge requirement for short-term groundwater related discharges and for de minimus discharges with in the Newport Bay Watershed. The NSMP working group has conducted numerous evaluation studies for BMP treatment technologies. The NSMP working group has also continued development and refinement of a plan to address requirements in the proposed selenium Total Maximum Daily Load (TMDL). The plan addresses nitrogen management issues as well as selenium within the Newport Bay Watershed. During 2009/10, BMP testing was further evaluated, the BMP Strategic Plan was revised, reviewed and updated, and review and comment was completed for draft sections of the proposed Selenium TMDL. The NSMP working group funding members also developed and executed a cooperative funding agreement, and established work plan, schedule and funding priorities for the next two years.

The City completed collaborative participation in the SmarTimer Edgescape Evaluation Project (SEEP) to study the effectiveness of irrigation runoff reductions and reduction of pollutants potentially conveyed by runoff from irrigated landscape areas through BMP retrofits. BMP retrofits at the City's study site resulted in a significant reduction and elimination of runoff from the site-specific irrigation system. Post-construction water samples were not collected due to the lack of runoff available for sampling.

Improvements in Stormwater Science

The City is collaborating, through the Principal Permittee, in the Stormwater Monitoring Coalition (SMC) on studies that may shape plan development and the selection of future BMPs as well as improving the City's understanding of stormwater science.

#### A-3.3.4 Plan Revision

Annual progress updates to the LIP are submitted with the annual PEA Report to summarize proposed BMP and programmatic adaptations. Program assessment and iterative BMP findings, as well as any modifications to the program or to programmatic assessment methods, are reported, along with any corresponding revisions made to the LIP, as appropriate. The DAMP will be revised and submitted by the Principal Permittee as the proposed plan for each Report of Waste Discharge. The LIP is a more dynamic document plan that is evaluated on at least an annual basis by the City or as directed by the Regional Board.

#### A-3.4 FUNDING OF STRUCTURAL CONTROLS

[Reserved]

#### A-3.5 EMPLOYEE TRAINING AND OUTREACH

The City will provide or require educational activities and training for its direct employees as described in subsequent sections for each programmatic element. The Principal Permittee will coordinate, develop and present a number of different training modules (**DAMP Appendix B**). The modules will be substantially updated in 2010-11 to reflect the requirements of the Fourth Term Permits. The City will support this effort by requiring the appropriate employees attend training sessions and conduct applicable train-the-trainer sessions, if necessary. Required employee training is summarized below in **Table A-3.2**.

### Table A-3.2 Required Employee Training

Job Class	Key Responsibilities	Required Training
Stormwater Program	Management of Stormwater	Stormwater Program Manager's
Manager	Program	Training
Authorized	Commercial/Industrial	Authorized Inspector Training
Inspectors	Inspections, Investigations,	_
	Enforcement	
Construction Site	Water Quality Construction	Construction Site Inspection
Inspection	Site Inspection	_

## Exhibit A-3.I

# Program Assessment Measures



LIP Exhibit 3.1: Program Assessment Measures

Assessments for Objective #1: reduce stormwater pollutant loadings from MS4 to 303(d) waterbodies

Applicable CASQA Levels & Program Elements	Assessment Measure	Results	Discussion of Findings	Effectiveness Assessment Strategy
	What percentage of all required Municipal, Existing Development, Construction, and BMP inspections were performed at designated intervals/frequency, to confirm stormwater source controls (I.e. proper storage, housekeeping, disposal and spill cleanup practices, and erosion controls) are being properly implemented?	identify % for each category (may be more than 100%)	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Level 2: Municipal Activity Outcome Measure for C.7 Education, C.9 Existing Development	Based on available direct or indirect measurements, is the knowledge or behavior of target communities (residents, HOAs, businesses, developers, agency staff and/or contractors) changing over time relative to MS4 stormwater functions, impact of stormwater on receiving waters, and/or potential stormwater BMP solutions (i.e. proper storage, housekeeping, disposal and spill cleanup practices, integrated pest management, and erosion controls)? [City data sets may include one or more of the following: inspection results; data from opinion surveys; utilization of HHW & Used Oil centers; event participation; literature distribution; website hits, # of pet waste bags dispensed; participation or results of cleanup events; quantity of trash retrieved from MS4; or other data set locally available. Some data sets, such as phone surveys, may not be available every year]	identify improvement metric(s) and results/trends over known/specified time period	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 3 & 4: Municipal Enforcement Outcome for C.5 Municipal, C.7 New Development, C.9 Existing Development	Is the percentage of the jurisdiction's developed parcels that are known to have low-impact design, biofiltration, hydromodification, or stormwater treatment control BMPs on site changing over time?	identify % and trend over known/specified time period; broken down by land use category and watershed if available	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
	Is the percentage of the jurisdiction's developed area that drains to or through off-site or regional stormwater treatment controls, biofiltration, or restored stream segments changing over time?	Identify % and trend over known/specified time period; broken down by watershed if available.	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 4, 5 and 6: Water Quality Outcome for C.11 Water Quality	Is the percentage of Stormwater Action Level exceedances at MS4 outfalls in this jurisdiction changing over time?	Identify % and trend over known/specified time period; broken down by constituent and watershed if available	discuss implication of results for program design or effectiveness in reducing MS4 discharges of specific pollutants or causing impairments; what augmented controls are being considered/implemented?	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?

CASQA Level 1: Municipal Enforcement Outcome for C.5 Municipal, C.7 New Development, C.8 Construction, C.9 Existing Development	What percentage of all required Municipal, Existing Development, Construction, and BMP inspections were performed at designated intervals/frequency, to confirm dry weather source controls (I.e. washdown controls, irrigation runoff elimination measures) are being properly implemented?	identify % for each category (may be more than 100%)	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 2 & 3: Municipal Activity Outcome for C.6 Education, C.9 Existing Development	Based on available direct or indirect measurements, is the knowledge or behavior of target communities (residents, HOAs, businesses, developers, agency staff and/or contractors) changing over time relative to MS4 dry weather discharge prohibitions, impact of dry weather discharges on receiving waters, and/or potential dry weather BMP solutions (i.e. spill prevention, wash-down controls, irrigation runoff elimination, integrated pest management, etc)? [City data set(s) may include one or more of the following: inspection results, hotline complaint characterization, opinion surveys; estimated marketing impressions; event participation, literature distribution, website hits, utilization of water-smart landscape rebate programs, number of warning notifications, or other data set locally available. Some data sets, such as phone surveys or water purveyor data, may not be available every year; may be based on calendar years or other period rather than reporting years; or may have a geographic boundary different from the City's jurisdictional boundary.]	identify improvement metric(s) and results/trends over known/specified time period	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 3 & 4: Water Quality Outcome for C.5 Municipal, C.9 Existing Development	Based on available direct or indirect measurements, is outdoor use of potable and/or reclaimed water changing over time? [may include water consumption statistics; community-wide ETAF; dry weather storm drain or creek flow rate or patterns; tiered-water-rate sales data; etc]. Some data sets may not be available every year; may be based on calendar years or other period rather than reporting years; or may have a geographic boundary different from the City's jurisdictional boundary.	identify improvement metric(s) and results/trends over known/specified time period; broken down by land use and watershed if available	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 4, 5 & 6: Water Quality Outcome for C.10 ID/IC, C.11 Water Quality	Is the percentage of Non-Stormwater Action Level exceedances at MS4 outfalls in this jurisdiction changing over time?	Identify % and trend over known/specified time period; broken down by constituent and/or watershed if available	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
Assessment Objectives for Major Program Component Outcomes (also see D-2 Checklist Items)				
CASQA Levels 1, 2 & 3: Municipal Activity Outcome for C.5 Municipal	What percentage of required MS4 system inspections were conducted, during the dry season, to determine cleaning or other maintenance needs?	Identify %.	If less than 100%, explain. Discuss implication of results for program design or BMP effectiveness.	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 1, 2 & 3: Municipal Activity Outcome for C.5 Municipal	What percentage of required high-priority Municipal Site Facilities and Programs were inspected?	Identify %.	If less than 100%, explain. Discuss implication of results for program design or BMP effectiveness.	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?

CASQA Levels 3, 4, 5 & 6: Municipal Activity Outcome for C.5 Municipal	Is the amount of waste removed from the MS4, channels and/or by street sweepers changing over time?	, ,	discuss implication of results for program design or BMP effectiveness in reducing MS4 discharges of specific pollutants or causing impairments	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 1, 2 & 3: Municipal Activity Outcome for C.7 New Development	What percentage of the total number of required post-construction BMP inspections were conducted, prior to the rainy season?	Identify percentages based on BMP categories.	If less than 90% for SUSMP BMPs, or less than 100% for high-priority and public agency BMPs; or less than 50% of drainage insert BMPs, explain. Discuss implication of results for program design or BMP effectiveness.	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 1, 2 & 3: Muncipal Activity Outcome for C.8 Construction	What percentage of required construction inspections were conducted?	Identify percentages based on construction category	If less than 100% (defined as biweekly for high-priority or monthly for other sites 1+ acre), explain. Discuss implication of results for program design or BMP effectiveness.	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
CASQA Levels 1, 2 & 3: Muncipal Activity Outcome for C.9 Existing Development	What percentage of required commercial/industrial facility inspections were conducted?	Identify percentages based on business categories.	If less than 100% (defined as 100% of food facilities and at least 20% of all other facilities), explain. Discuss implication of results for program design or BMP effectiveness.	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed or deleted?
Assessment Objectives for iterat	tive actions taken to protect water quality standards in accordance wi	th Section A.3		
CASQA levels 3, 4, 5 & 6: Municipal Activity and Water Quality Outcome for C.11 Water Quality	Did this jurisdiction, or the Regional Board, determine that MS4 discharges were causing or contributing to a persistent exceedance of water quality standards? If yes, summarize or attach report or update describing BMPs currently being implemented and additional BMPs that will be implemented; and provide implementation schedule or progress update.	indicate YES/NO. If yes, identify constituent(s), magnitude and location(s) of exceedances	identify BMPs currently being implemented; and additional BMPs that will be implemented to prevent or reduce pollutants; and the implementation schedule, including JRMP revision within 30 days after approval of initial report by the RWQCB	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed?
CASQA Level 3: Municipal Activity & Water Quality Outcome for C.11 Water Quality	Were additional BMPs implemented, pursuant to a persistent exceedance of water quality standards?	indicate <b>YES/NO</b> . If yes, identify BMPs and scope of implementation this year	discuss implication of results for program design or effectiveness	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed?
CASQA Levels 4, 5 & 6: Water Quality Outcome for C.11 Water Quality	Was additional monitoring implemented, pursuant to evaluating additional BMPs implemented in response to a persistent exceedance of water quality standards?	indicate <b>YES/NO</b> . If yes, identify scope of monitoring implementation this year.	discuss implication of results for program design or effectiveness	discuss how (or whether) this measure is useful for assessing effectiveness; should it be changed?